

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. through 10. (cancelled)

11. (currently amended): An exposure device, comprising:

a spatial light modulator; and

an illumination optical system, comprising:

a light source which irradiates illumination light on the spatial light modulator,

the light source comprising a laser and an optical fiber for propagating laser light emitted from the laser therethrough, and for emitting the laser light; and

an optical integrator which is placed between the light source and the spatial light modulator and uniformizes an intensity distribution of the illumination light by passing light through optical elements,

wherein diagonal lengths of the optical elements of the optical integrator are 4 mm or less; and

wherein ~~An exposure device having a constitution in which~~ illumination light emitted from the illumination optical system of claim 3 is modulated by the spatial light modulator based on a predetermined image signal and exposure of a photosensitive material is performed with an image formed by this modulated illumination light.

12. (currently amended): An exposure device comprising:

a spatial light modulator; and

an illumination optical system, comprising:

a light source which irradiates illumination light on the spatial light modulator,

wherein the light source has a constitution in which multiplexing of a plurality of lasers is

performed by making the lasers incident on one optical fiber and a plurality of the optical

fibers are further arranged to form a bundle, and

an optical integrator which is placed between the light source and the spatial light

modulator and uniformizes an intensity distribution of the illumination light by passing

light through optical elements,

wherein diagonal lengths of the optical elements of the optical integrator are 4

mm or less; and

wherein ~~having a constitution in which~~ illumination light emitted from the illumination optical system of claim 4 is modulated by the spatial light modulator based on a predetermined image signal and exposure of a photosensitive material is performed with an image formed by this modulated illumination light.

13. and 14 (cancelled)

15. (currently amended): An exposure device comprising:
a digital micromirror device (DMD); and
an illumination optical system, comprising:
a light source which irradiates illumination light on the DMD, the light source
comprising a laser and an optical fiber for propagating laser light emitted from the laser
therethrough, and for emitting the laser light; and
an optical integrator which is placed between the light source and the DMD and
uniformizes an intensity distribution of the illumination light by passing light through
optical elements,
wherein diagonal lengths of the optical elements of the optical integrator are 4
mm or less; and
wherein ~~having a constitution in which~~ illumination light emitted from the illumination
optical system of ~~claim 7~~ is modulated by the ~~spatial light modulator~~ DMD based on a
predetermined image signal and exposure of a photosensitive material is performed with an
image formed by this modulated illumination light.

16. (currently amended): An exposure device
a digital micromirror device (DMD); and
an illumination optical system, comprising:
a light source which irradiates illumination light on the DMD, wherein the light
source has a constitution in which multiplexing of a plurality of lasers is performed by

making the lasers incident on one optical fiber and a plurality of the optical fibers are further arranged to form a bundle, and
an optical integrator which is placed between the light source and the DMD and uniformizes an intensity distribution of the illumination light by passing light through optical elements,
wherein diagonal lengths of the optical elements of the optical integrator are 4 mm or less; and
wherein ~~having a constitution in which~~ illumination light emitted from the illumination optical system of ~~claim 8~~ is modulated by the ~~spatial light modulator~~ DMD based on a predetermined image signal and exposure of a photosensitive material is performed with an image formed by this modulated illumination light.

17. (cancelled)

18. (currently amended): An exposure method comprising the steps of:

providing an illumination optical system, comprising:

a light source which irradiates illumination light on a spatial light modulator, the light source comprising a laser and an optical fiber for propagating laser light emitted from the laser therethrough, and for emitting the laser light; and

an optical integrator which is placed between the light source and the spatial light modulator and uniformizes an intensity distribution of the illumination light by passing light through optical elements,

wherein diagonal lengths of the optical elements of the optical integrator are 4 mm or less; and

modulating illumination light emitted by the illumination optical system ~~defined in claim 3~~ with the spatial light modulator based on a predetermined image signal; and
exposing a photosensitive material with an image formed by this modulated illumination light.

19. (currently amended): An exposure method comprising the steps of:

providing an illumination optical system, comprising:

a light source which irradiates illumination light on the spatial light modulator,
wherein the light source has a constitution in which multiplexing of a plurality of lasers is performed by making the lasers incident on one optical fiber and a plurality of the optical fibers are further arranged to form a bundle, and

an optical integrator which is placed between the light source and the spatial light modulator and uniformizes an intensity distribution of the illumination light by passing light through optical elements,

wherein diagonal lengths of the optical elements of the optical integrator are 4 mm or less; and

modulating illumination light emitted by the illumination optical system ~~defined in claim~~
4 with the spatial light modulator based on a predetermined image signal; and
exposing a photosensitive material with an image formed by this modulated illumination
light.

20. (cancelled)